

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: C12N 5/04, 15/29, 15/09, 15/11, 15/63, 15/64, 15/66, 15/67, 15/82, A01H 5/00, 5/10	A1	(11) International Publication Number: WO 00/12681 (43) International Publication Date: 9 March 2000 (09.03.00)
(21) International Application Number: PCT/US99/20308 (22) International Filing Date: 25 August 1999 (25.08.99) (30) Priority Data: 60/098,034 27 August 1998 (27.08.98) US 60/137,836 7 June 1999 (07.06.99) US (71) Applicant (for all designated States except US): RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY [US/US]; Old Queens, Somerset Street, New Brunswick, NJ 08903 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MESSING, Joachim [US/US]; 17 Neuville Drive, Somerset, NJ 08873 (US). LAI, Jinsheng [CN/US]; 766 Bevier Road, Piscataway, NJ 08854 (US). (74) Agents: REED, Janet, E. et al.; Dann, Dorfman, Herrell and Skillman, Suite 720, 1601 Market Street, Philadelphia, PA 19103 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: COMPOSITIONS AND METHODS FOR PRODUCING HIGH-LEVEL SEED-SPECIFIC GENE EXPRESSION IN CORN		
(57) Abstract The present invention provides novel DNA constructs encoding high methionine zein proteins, the expression of which is not negatively regulated by the dzrl regulatory protein. The constructs of the invention comprise a 6-zein coding region operably linked to a promoter and a 3' UTR which has been modified so as to be devoid of any binding sites for the dzrl regulatory protein. Preferably, the entire 3' UTR is replaced by a heterologous sequence that does not contain any dzrl binding sites. Transgenic corn plants comprising the DNA constructs of the invention are also provided. These plants consistently produce high methionine corn seeds.		